

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER: \_\_\_\_\_**

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,420	11/14/2001	Livia Polanyi	106702	7039
25944	7590	08/25/2004		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER NOLAN, DANIEL A	
			ART UNIT 2654	PAPER NUMBER
DATE MAILED: 08/25/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/987,420	<b>Applicant(s)</b> POLANYI ET AL.	
	<b>Examiner</b> Daniel A. Nolan	<b>Art Unit</b> 2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 November 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/14/2001</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- The numbers 1 & 2 in figures 7 and 9 are not explained.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

Correction of the following is required:

- The feature of "*previously determined typical second language errors*" of claim 27 (lines 30-31) is not mentioned in the specification.
- The Examiner is proceeding with the understanding that the phrase refers to the *errors* of line 28.

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification, such as:

- the 3<sup>rd</sup> line of the abstract should end in a comma.
- "using" should be "as described in" (§0031 line 30).
- a comma is required after the word "sounds," (§0066 line 15).

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested:

*"Dynamically Changing the Levels of Reading Assistance and Instruction  
to Support the Needs of Different Individuals".*

### ***Claim Objections***

5. Claims 1, 2, 5, 7-9, 12-13, 18-21, 25, 27 and 30 are objected to because of the following informalities:

- Consistency for the convention having the last of a series to be preceded by the word "and" requires the word "and" preceding the last step (following "word;" in claim 1 line 8 & claim 14 line 17 – see claim 6).

Art Unit: 2654

- In claims 2, 9, 15 & 22, since there is no comma before the final “and” to clearly indicate that “grade and performance” together are one element and because performance is not associated with grade in the specification, the word “and” before the last (lines 12, 8, 21 & 16, respectively) must be replaced with a comma “,”.
- In claims 5, 7, 8, 12, 18, 19; consistency for the convention used in prior claims when listing a series establishes the requirement that a comma precede the last word “, and” (lines 20, 3, 6, 16, 29 & 6, respectively).
- In claim 7, “step” should be singular (1<sup>st</sup> line).
- Claim 13 must end with a period (line 5).
- In claim 19, the word “method” should be “system” (1<sup>st</sup> line).
- In claim 20, the word “and” should precede “speed” (line 11).
- In claims 21 & 25, a comma should precede the last word “and” (lines 14 & 24, respectively).
- In claim 27, the semicolon (line 30) should be a comma.
- In claim 27, the words “*reading level*” should follow “*second language*” (line 30)
- In claim 27, the word “*language*” is misspelled (line 31)
- In claim 30 the last comma should be removed since the first feature has no complement in a series (line 23) – see claim 31 (line 1).

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 27 recites the limitation "*second language reading level*" in line 30. There is insufficient antecedent basis for the limitation in the claim.

9. Claim 27 recites the limitation "*previously determined typical 2<sup>nd</sup> language errors*" in lines 30-31. There is insufficient antecedent basis for the limitation in the claim.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Komissarchik et al**

11. Claims 1 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Komissarchik et al (U.S. Patent 5,799,276 A).

12. Regarding claim 1, Komissarchik et al, with the invention for *knowledge-based speech recognition system and methods having frame length computed based upon estimated pitch period of vocalic intervals*, read on every feature of the claim for *dynamic personalized reading instruction* where words meeting a confidence/recognition level are displayed above a “line” and words failing to meet the level are displayed “below”, as follows:

- Komissarchik et al read on the step of *determining a 1<sup>st</sup> word recognition level* (column 16 lines 13-17);
- Komissarchik et al read on the step of *displaying words based on the determined word recognition level from a set of words classified by word recognition levels* (20 in figure 2);
- Komissarchik et al read on the step of *determining word recognition errors based on comprehension of a word* (below the confidence level – see column 16 lines 18-22);
- Komissarchik et al read on the step of *determining a 2<sup>nd</sup> word recognition level based on the determined word recognition errors* (with the ranking illustrated in 23, figure 2 – see column 15 lines 41-44 as taught in column 4 line 42).



Art Unit: 2654

13. Regarding claim 14, Komissarchik et al read on every feature of the claim for *dynamic personalized reading instruction* as follows:

- Komissarchik et al read on the feature of a *controller* (in the CPU 14 in figure 1);
- Komissarchik et al read on the feature of a *memory* (17 in figure 1) *for storing words and comprehension aids classified by word recognition levels* (inherently relevant to the word confidence levels of column 8 lines 16-17 – see column 16 lines 18-22);
- Komissarchik et al read on the feature of a *word recognition level determining circuit for determining a word recognition level* (column 16 lines 13-17);
- Komissarchik et al read on the feature of a *word display circuit for displaying words* (20 in figure 2) *from the stored words based on the determined word recognition level*;
- Komissarchik et al read on the feature of a *recognition error determining circuit for determining recognition errors* (column 16 lines 18-22);
- Komissarchik et al read on the feature of a *comprehension aid display circuit for displaying comprehension aids based on determined recognition errors* (22 figure 2);
- Komissarchik et al read on the feature of a *word recognition level adjusting circuit adjusting the word recognition level based on the determined recognition errors* (inherently enabling the ranking illustrated in 23, figure 2 – see column 15 lines 41-44 as taught in column 4 line 42).

**Rtischev et al**

14. Claims 28 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Rtischev et al (U.S. Patent US 5,634,086 A).

15. Regarding claims 28 and 30, Rtischev et al, with the invention for *voice-interactive language instruction*, read on the features of *a carrier wave encoded to transmit a control program* (an inherent characteristic of the DSP device, column 3 line 66) *usable for dynamic personalized reading instruction to a device for executing the control program* (disclosed in column 4 lines 48-58) *including instructions* and, specific to claim 30, *a computer readable program code embodied on the computer readable storage medium* (34 in figure 1& 42-48 in figure 2 – see column 4 line 63 to column 5 line 2) *to perform dynamic personalized reading instruction* as follows:

- Rtischev et al read on the feature of *instructions for determining a 1<sup>st</sup> word recognition level* (AJ in figure 4B).
- Rtischev et al read on the feature of *instructions for displaying words* (video, column 3 line 5) *based on the determined word recognition level* (column 3 lines 60-65) *from a set of words classified by word recognition levels*.
- Rtischev et al read on the feature of *instructions for determining word recognition errors based on comprehension of a word* (by recognizing reading errors in column 3 line 43) and *instructions for determining a 2<sup>nd</sup> word recognition level based on the determined word recognition errors* (i.e., any other one of the *three levels of error tolerance* column 3 line 39).

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Komissarchik *et al* & Carlgren *et al***

18. Claims 2-5 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komissarchik *et al* in view of Carlgren *et al* (U.S. Patent 4,456,973 A).

Art Unit: 2654

19. Regarding claims 2 and 15 as understood by the Examiner; the claims are set forth with the same limitations as claims 1 and 14, respectively. Komissarchik et al does not speak to the process of *setting comprehension levels*. Carlgren et al, with the invention for an *automatic text grade level analyzer*, read on the feature where *the 1<sup>st</sup> word recognition level is determined based on at least one of: age, scholastic grade (42 in figure 5), performance, and an interactive test sequence*. It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Carlgren et al to the device/method of Komissarchik et al so as to have the product accommodate a broad range of users.

20. Regarding claims 3 and 16; the claims are set forth with the same limitations as claims 1 and 14, respectively. Komissarchik et al does not speak to *comprehension aids*. Carlgren et al read on the feature where *at least one of a set of words in the set of words classified by word recognition level is associated with a comprehension aid* (as illustrated by the synonyms 43 in figure 5). It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Carlgren et al to the device/method of Komissarchik et al so that a transcriber can select an intended word from possibilities.

21. Regarding claims 4 and 17; the claims are set forth with the same limitations as claims 3 and 16, respectively. Komissarchik et al does not speak to *comprehension aids*. Carlgren et al read on the feature where *the comprehension aid is a human*

Art Unit: 2654

*sensible explanation of the concept of at least one classified word (in this case, by providing synonyms in column 5 lines 45-49).*

22. Regarding claims 5 and 18 as understood by the Examiner; the claims are set forth with the same limitations as claims 4 and 17, respectively. Komissarchik et al does not speak to *comprehension aids*. Carlgren et al read on the feature where *the human sensible explanation of the concept is at least one of: a graphic icon, an animation, audio information, and video information* (43 & 44 in figure 5).

**Burstein et al & Carlgren et al**

23. Claims 6-12 and 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burstein et al (U.S. Patent 6,366,759 B1) in view of Carlgren et al.

24. Regarding claims 6 and 19 as understood by the Examiner, Burstein et al, with the invention *for computer-based automatic essay scoring*, read on the features of *dynamic personalized reading instruction* as follows:

- Burstein et al read on the step of *determining a text* (essay, in column 7 lines 1-3);
- Burstein et al teach the step of *analyzing the text based on a theory of discourse analysis* (column 1 lines 59-64);
- Burstein et al read on the step of *determining a 1<sup>st</sup> user reading level* (i.e., class in column 7 lines 7-9);

- Burstein et al teach on the step of *displaying a grammatical tunable text summary* (using *grammar checker variables* column 2 lines 20-28) *based on the determined reading level* (i.e., *essay scoring* in column 2 lines 38-43);
- Burstein et al recognize the role of *determining comprehension* (column 1 lines 59-66), but do not explicitly teach its use as do Carlgren et al, who read on the step of *determining comprehension of the text* (column 5 lines 39-44); *and*
- Carlgren et al further read on the step of *determining a further user reading levels based on the comprehension and reading level* (with the step of applying synonyms *whose grade level is exceeded*, column 5 lines 60-63).
- It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Carlgren et al to the device/method of Burstein et al so as to keep suggestions compatible with the associated materials.
- Regarding those features particular to claim 19, Burstein et al disclose the physical features of a *memory* and circuits enabling *input/output* and the features cited above (claim 17 lines 32-42)

25. Regarding claims 7 and 20, the claims are set forth with the same limitations as claims 6 and 19, respectively. Burstein et al do not speak to *displaying salient information*. Carlgren et al read on the step of *displaying salient information from the grammatical tunable text summary based on at least one of: a user request* (42 in figure 5), *determined reading speed, and determined comprehension level*. It would have

Art Unit: 2654

been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Carlgren et al to the device/method of Burstein et al so that suggestions agree with the criteria that was used to decide the need for further display.

26. Regarding claims 8 and 21; the claims are set forth with the same limitations as claims 7 and 19, respectively. Burstein et al teach the feature where *the text is analyzed based on the Discourse Structures Theory, Linguistic Discourse Model, Rhetorical Structure Theory* (column 1 line 57), *Systemic Functional Grammar*, or *Tagmemics*.

**Burstein et al, Carlgren et al & Komissarchik et al**

27. Claims 9-12 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burstein et al in view of Carlgren et al and further in view of Komissarchik et al.

28. Regarding claim 9 as understood by the Examiner and claim 22, the claims are set forth with the same limitations as claims 7 and 19, respectively. The features of the claims are the same as those found in claim 2 and the claims are rejected for the same reasons.

Art Unit: 2654

29. Regarding claims 10 and 23, the claims are set forth with the same limitations as claims 9 and 22, respectively. The features of the claims are the same as those found in claim 6 and the claims are rejected for the same reasons.

30. Regarding claims 11 and 24, the claims are set forth with the same limitations as claims 10 and 23, respectively. The features of the claims are the same as those found in claim 4 and the claims are rejected for the same reasons.

31. Regarding claims 12 and 25 as understood by the Examiner, the claims are set forth with the same limitations as claims 11 and 24, respectively. The features of the claims are the same as those found in claim 5 and the claims are rejected for the same reasons.

**Komissarchik et al, Carlgren et al & Burstein et al**

32. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komissarchik et al in view of Carlgren et al and further in view of Burstein et al.

26. Regarding claim 13, Komissarchik et al read on the features of the claim for *combined word and sentence level dynamic personalized reading instruction* as follows:

- Komissarchik et al read on the feature of *providing word level dynamic personalized instruction* (22 in figure 2):



Art Unit: 2654

- Komissarchik et al read on the step of *determining a 1<sup>st</sup> word recognition level* (column 16 lines 13-17);
- Komissarchik et al read on the step of *displaying words based on the determined word recognition level from a set of words classified by word recognition levels* (20 in figure 2);
- Komissarchik et al read on the step of *determining word recognition error based on comprehension of a word* (below the confidence level - see column 16 lines 18-22);
- Komissarchik et al read on the features of *providing sentence level dynamic personalized instruction* (column 8 line 13) but does not speak to a second or further recognition level. Carlqren et al read on the step of *determining a 2<sup>nd</sup> word recognition level based on the determined word recognition errors* (with the step of applying synonyms whose grade level is exceeded, column 5 lines 60-63).
- Burstein et al read on the step of *determining a text* (essay, in column 7 lines 1-3);
- Burstein et al teach the step of *analyzing the text based on a theory of discourse analysis* (column 1 lines 59-64);
- Burstein et al read on the step of *determining a 1<sup>st</sup> user reading level* (i.e., class in column 7 lines 7-9);
- Burstein et al teach the step of *displaying a grammatical tunable text summary based on the determined reading level* (using grammar checker variables, column 2 lines 20-28)

Art Unit: 2654

- Burstein et al recognize the role of *determining comprehension* (column 1 lines 59-66), but do not explicitly teach its use as do Carlgren et al, who read on the step of *determining comprehension of the text* (column 5 lines 39-44); and
- Carlgren et al further read on the step of *determining a 2<sup>nd</sup> user reading level based on the comprehension and reading level* (with the step of applying synonyms whose grade level is exceeded, column 5 lines 60-63).
- It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Carlgren et al to the device/method of Komissarchik et al to keep the discourse of a text in line with the associated words, and it would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Burstein et al to the device/method of Komissarchik et al & Calgren et al to identify problems with understanding that do not arise from word misrecognition.

**Carlgren et al, Komissarchik et al & Rtischev et al**

33. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carlgren et al in view of Komissarchik et al and further in view of Rtischev et al (U.S. Patent 5,634,086 A).

34. Regarding claim 26, Carlgren et al read on the features of the claim for *combined word and sentence level dynamic personalized reading instruction* as follows:

Art Unit: 2654

- Carlgren et al further read on the *feature of word level dynamic personalized instruction* (column 3 line 41) and a *controller* (column 3 line 37); a *memory for storing words* (column 2 line 23), *comprehension aids classified by word recognition levels and a text* (column 1 lines 30-37);
- Carlgren et al further read on the feature of a *word recognition level determining circuit for determining a word recognition level* (column 1 lines 36-37) and a *word display circuit for displaying words from the stored words based on the determined word recognition level* (column 1 line 40);
- Carlgren et al does not speak to *recognition errors*. Komissarchik et al read on the feature of a *recognition error determining circuit for determining recognition errors* (column 17 lines 2-5) and a *comprehension aid display circuit for displaying comprehension aids based on determined recognition errors* (20 in figure 2);

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Komissarchik et al to the device/method of Carlgren et al so as to decrease the error rate for frequent words.

- Neither Carlgren et al nor Komissarchik et al mention *adjusting word recognition based on errors*. Rtischev et al, with the invention for *voice-interactive language instruction*, disclose the feature of a *word recognition level adjusting circuit adjusting the word recognition level based on the determined recognition errors* (AJ→AN in figure 4B – see column 3 lines 38-40). It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to

apply the method/teachings of Rtischev et al to the device/method of Calgren or Komissarchik et al to keep the system from being annoying to use by employing a level of patience that simulates natural human-based interaction.

- Carlgren et al teach the feature of *sentence level dynamic personalized instruction circuit* (column 1 lines 19-24); *an input/output circuit for loading a selected text into the memory* (column 2 lines 23-24) but does not stipulate *discourse analysis*.
- Burstein et al teach the feature of a *discourse analysis circuit for analyzing the text* (column 1 lines 59-64) and on the feature of a *grammatical tunable text summary generating circuit for determining a grammatical tunable text summary of the analyzed text* (using *grammar checker variables* column 2 lines 20-28);
- Carlgren et al read on the feature of a *text determining circuit for determining display text based on a determined reading level information* (column 1 lines 36-37 & 40);
- Carlgren et al does not mention *interactive questioning*.

Rtischev et al disclose the feature of a *comprehension question generating circuit for generating comprehension questions* (column 3 lines 15-17 & 45-48) based on the *grammatical tunable text summary* (in this case, being expected to match the *target language* of column 3 line 18) and on the feature of a *controller for determining a new reading level* (i.e., one of the 4 levels or states in column 3 lines 46-48) based on at least one of the determined comprehension and reading speed (with the *pauses T* in figure 4A2 & AH→AJ in figure 4B).

It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of

Rtischev et al to the device/method of Carlgren et al so as to monitor the dialogue to be within the parameters of the using audience.

**Carlgren et al & Burstein et al**

25. Claims 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlgren et al in view of Burstein et al.

35. Regarding claims 29 and 31, Carlgren et al read on the features of the claims for *a carrier wave encoded to transmit a control program usable for dynamic personalized reading instruction to a device for executing the control program* (column 3 lines 28-35) and for *a computer readable storage medium, comprising a computer readable program code embodied on the computer readable storage medium, the computer readable program code usable to program a computer to perform dynamic personalized reading instruction* (column 2 lines 23-25) as follows:

- Carlgren et al read on the feature of *instructions for determining a text* (column 2 lines 30-31);
- Carlgren et al does not mention using a *theory of discourse analysis*. Burstein et al teach the feature of *analyzing the text based on a theory of discourse analysis* (column 1 lines 59-64);
- Carlgren et al disclose a target grade level but do not speak to *instructions for determining reading levels*. Burstein et al read on the feature of *instructions for determining a 1st user reading level* (i.e., the class in column 7 lines 7-9);

Art Unit: 2654

- Burstein et al teach the feature of *instructions for displaying a grammatical tunable text summary based on the determined reading level* (using grammar checker variables, column 2 lines 20-28).
- Burstein et al recognize the role of *determining comprehension* (column 1 lines 59-66), but do not explicitly teach its use as do Carlgren et al, who read on the step of *instructions for determining comprehension of the text* (column 5 lines 39-44); and
- Carlgren et al further read on the step of *instructions for determining a further user reading levels based on the comprehension and reading level* (with the step of applying synonyms whose grade level is exceeded, column 5 lines 60-63).
- It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Burstein et al to the device/method of Carlgren et al to address mis-recognition based on word understanding rather than to rely on the mechanics of word matching and selection.

***Allowable Subject Matter***

36. Claim 27 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

37. The following is a statement of reasons for the indication of allowable subject matter:

Art Unit: 2654

- The present invention is directed to dynamically changing the level assistance provided for reading to suit the individual requirements of different readers.
- Claim 27 as understood by the Examiner identifies the uniquely distinct features of "displaying comprehension aids based on determined comprehension errors, 2<sup>nd</sup> language - - reading level - - and previously determined typical 2<sup>nd</sup> language errors".
- The disclosure specifies that all of the above underlined positive features of "reading level" and "recognition level" are separate and distinct from the specifically negative "recognition errors" (as in Abstract, lines 4-5 and 5-6, respectively) and consequently that the allowable features do establish the 2<sup>nd</sup> level on the "positive" determination.

The closest prior art, Komissarchik et al, disclose the "negative" limitations of determining a 2<sup>nd</sup> level based on errors but fail to anticipate or render the above underlined limitations obvious.

38. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

### **Conclusion**

39. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2654

- Cohen et al (U.S. Patent 6,571,209 B1) disabling and enabling of sub-vocabularies in speech recognition systems.
- Gould et al (US 5,428,707 A) for training speech recognition systems and their users and otherwise improving speech recognition performance.
- Gould et al (US 5,909,666 A) speech recognition system that creates acoustic models by concatenating acoustic models of individual words.
- Gould et al (US 5,915,236 A) word recognition system that alters code executed as a function of available computational resources.
- Gould et al (US 5,920,837 A) word recognition system that stores two models for some words and allows selective deletion of one such model.
- Gould et al (US 5,920,836 A) word recognition system using language context at current cursor position to affect recognition probabilities.
- Gould et al (US 6,073,097 A) speech recognition system that selects one of a plurality of vocabulary models.
- Basu et al (US 6,594,629 B1) for audio-visual speech detection and recognition.

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel A. Nolan whose telephone number is (703)305-1368. The examiner can normally be reached on Mon, Tue, Thu & Fri, from 7 AM to 5 PM. If attempts to contact the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached at (703)305-9645.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The fax phone number for Technology Center 2600 is (703)872-9314. Label informal and draft communications as "DRAFT" or "PROPOSED", & designate formal communications as "EXPEDITED PROCEDURE". Formal response to this action may be faxed according to the above instructions,

or mailed to:

P.O. Box 1450  
Alexandria, VA 22313-1450

or hand-deliver to: Crystal Park 2,  
2121 Crystal Drive, Arlington, VA,  
Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 Customer Service Office at telephone number (703) 306-0377.

*Donald L. Storm*  
EXAMINER  
AU 2654

Daniel A. Nolan  
Examiner  
Art Unit 2654

DAN/d  
August 20, 2004